

### REMARKS

Applicants acknowledge receipt of an Office Action dated April 30, 2004. In this response Applicants have amended claims 1 and 11. Support for these amendments may be found in the specification, *inter alia*, in the first full paragraph on page 8. Applicants submit these amendments at this time solely in an effort to expedite prosecution in the present Application. Applicants expressly reserve the right to pursue additional claims to disclosed subject matter in one or more continuing or divisional applications.

Following entry of these amendments, claims 1-3, 7 and 11-14 are pending in the application. Claims 3, 7 and 11-14 have been withdrawn from consideration as being drawn to non-elected subject matter. Thus, claims 1 and 2 are currently pending and under consideration.

Applicants respectfully request rejoinder of process claim 11-13 in accordance with MPEP 821.04 upon allowance of the elected claims.

Reconsideration of the present application is respectfully requested in view of the foregoing amendments and the remarks which follow.

### Telephone Interview on June 29, 2004

During a telephone interview conducted on June 29, 2004, Mr. Paul D. Strain and Examiner Palabrica discussed the outstanding rejections set forth in the Office Action dated April 30, 2004. During the Office Action, Mr. Strain noted that claims 6 and 15, which were rejected on pages 6 and 7 of the Office Action, had been canceled in an amendment submitted April 13, 2004. Examiner Palabrica confirmed that the rejection was inadvertent. In addition, Mr. Strain and Examiner Palabrica discussed an amending to claims 1 and 11 to recite a B/S range of 0.065 to 0.08 cm<sup>-1</sup>. Mr. Strain noted that the specification contained support for such an amendment, *inter alia*, at the first full paragraph on page 8. Examiner Palabrica indicated that such an amendment would advance prosecution of the present application.

### **Rejections Under 35 U.S.C. §102/103**

On pages 3-5 of the Office Action, the PTO has rejected claims 1 and 2 under 35 U.S.C. §102 as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 3,147,191 to Crowther *et al.* (hereafter “Crowther”). Applicants respectfully traverse these rejections.

In this response, Applicants have amended claim 1 to recite “wherein a ratio (B/S) of the width (B) of the control rod blades to a surface area (S) of a square having sides each being equal to the pitch between the fuel assemblies is set in a range of 0.065 to 0.08 cm<sup>-1</sup>.” (Emphasis added).

With respect to the rejection under §102, Applicants note that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See generally MPEP §2131. Here, Crowther fails to disclose a reactor core comprising a plurality of control rods “wherein a ratio (B/S) of the width (B) of the control rod blades to a surface area (S) of a square having sides each being equal to the pitch between the fuel assemblies is set in a range of 0.065 to 0.08 cm<sup>-1</sup>.”

With respect to the rejection under §103, in order to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 USPQ 580 (CCPA 1974). See MPEP §2143.03. Again, Applicants note that Crowther fails to disclose a reactor core comprising a plurality of control rods “wherein a ratio (B/S) of the width (B) of the control rod blades to a surface area (S) of a square having sides each being equal to the pitch between the fuel assemblies is set in a range of 0.065 to 0.08 cm<sup>-1</sup>.”

Applicants note that the PTO has based both its rejection under §102 and its rejection under §103 on the presumption that Applicants claimed ratio falls within an uncertainty band on either side of a ratio derived from measurements taken from drawings in Crowther. Applicants note that claim 1 now recites a range of “0.065 to 0.08 cm<sup>-1</sup>” and that the lower end of that range, 0.065 cm<sup>-1</sup>, clearly falls outside the uncertainty band noted in the Office Action.

Applicants note here that they have amended claims 1 and 11 solely to advance prosecution of the present application. Applicants reserve the right to present arguments, at a

later time, that it is impermissible to estimate dimensions from drawings when, as here, the patent disclosure does not explicitly state that the drawings are drawn to scale. In this regard, Applicants also note here that Crowther discloses only a limited number of dimensions and does not explicitly disclose, teach or suggest configurations in which the ratio of B/S is 0.06 to 0.08 cm<sup>-1</sup>.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections under 35 U.S.C. §102 and 35 U.S.C. §103.

**Rejection Under 35 U.S.C. §103**

On page 6 of the Office Action, the PTO has rejected claim 15 under 35 U.S.C. §103. In addition, on page 7 of the Office Action, the PTO has rejected claim 6 under 35 U.S.C. §103. The PTO appears to have inadvertently repeated these rejections even though claims 6 and 15 were cancelled in the response filed on April 13, 2004. Since claims 6 and 15 have been cancelled, Applicants submit that the rejections under 35 U.S.C. §103 on pages 6 and 7 of the Office Action are moot.

### CONCLUSION

Applicants believe that the present application is now in *prima facie* allowable form. Favorable reconsideration of the application, as amended, is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance prosecution of the present application.

Respectfully submitted,

Date 8/30/04

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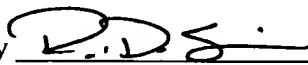
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The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.